

KIC 003099613

Q1-17 DR25 TCE Parameters

TCE	Run Type	KOI?	Period (Days)	Epoch (BKJD)	Depth (ppm)	Duration (Hours)	MES	SNR	R_{\star} (R_{\odot})	T_{\star} (K)	R_p (R_{\oplus})	S_p (S_{\oplus})
003099613-01	OBS	No	615.769907	154.064518	378.8	5.549	7.3	6.9	1.23	6004	4.71	0.91

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003099613-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_SKYE—CENT_FEW_DIFFS

Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.

N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

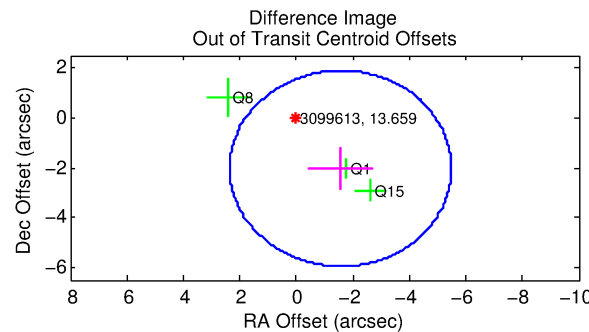
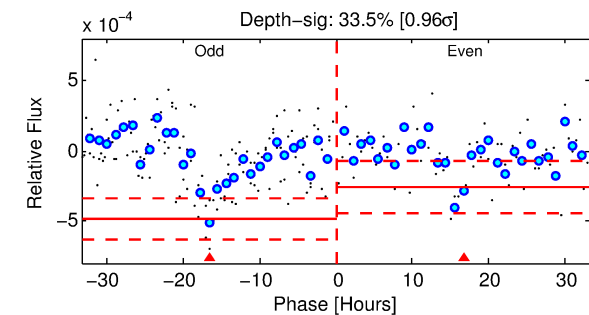
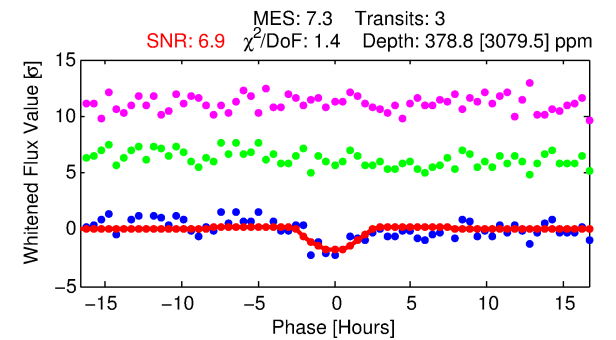
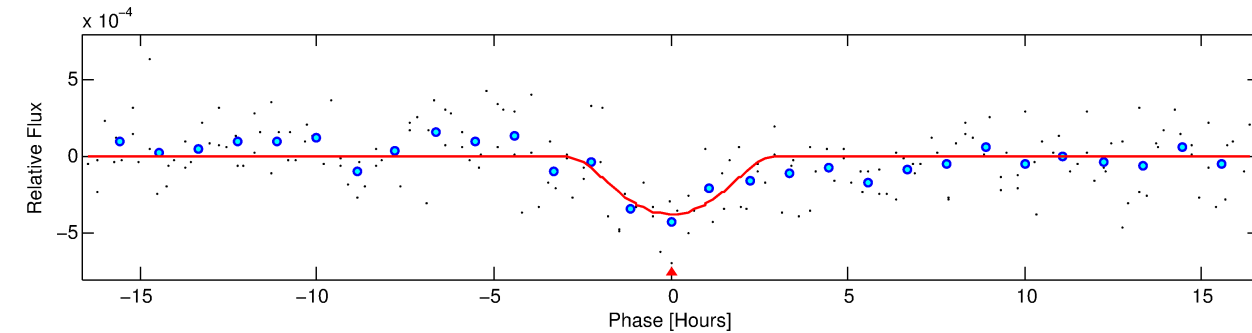
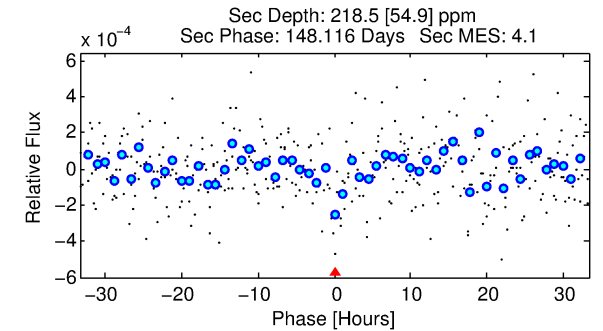
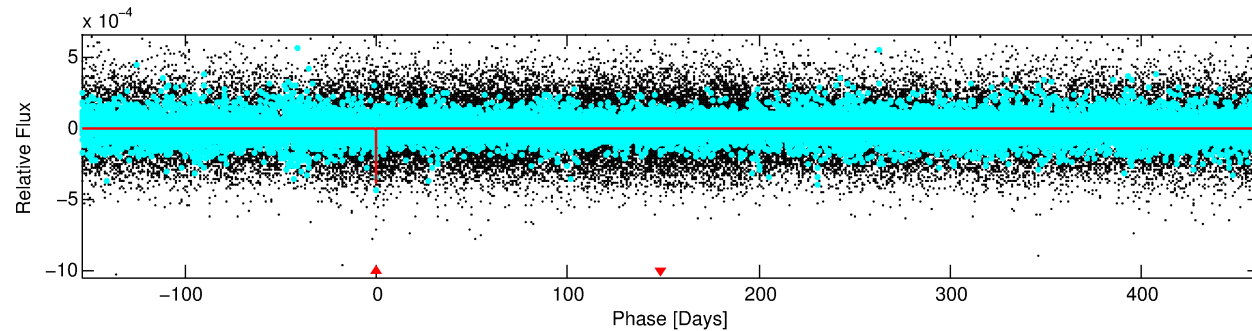
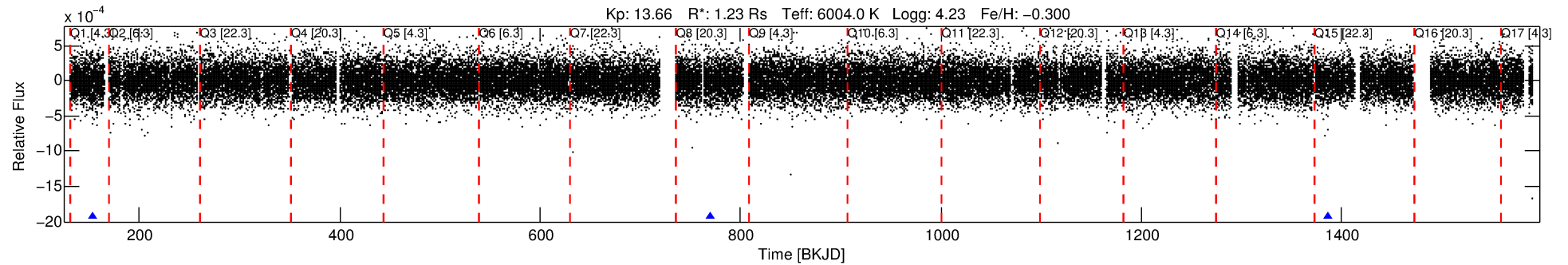
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003099613-01

No Significant Match Found

DV One-Page Summary

KIC: 3099613 Candidate: 1 of 1 Period: 615.770 d



DV Fit Results:

Period = 615.76991 [0.01419] d
Epoch = 154.0645 [0.0202] BKJD
Rp/R* = 0.0352 [0.2527]
a/R* = 227.07 [418.52]
b = 1.00 [0.17]
Seff = 0.91 [0.41]
Teq = 249 [28] K
Rp = 4.72 [33.84] Re
a = 1.3867 [0.3664] AU
Ag = 10396.48 [149189.91] [0.07 σ]
Teffp = 3888 [13944] K [0.26 σ]

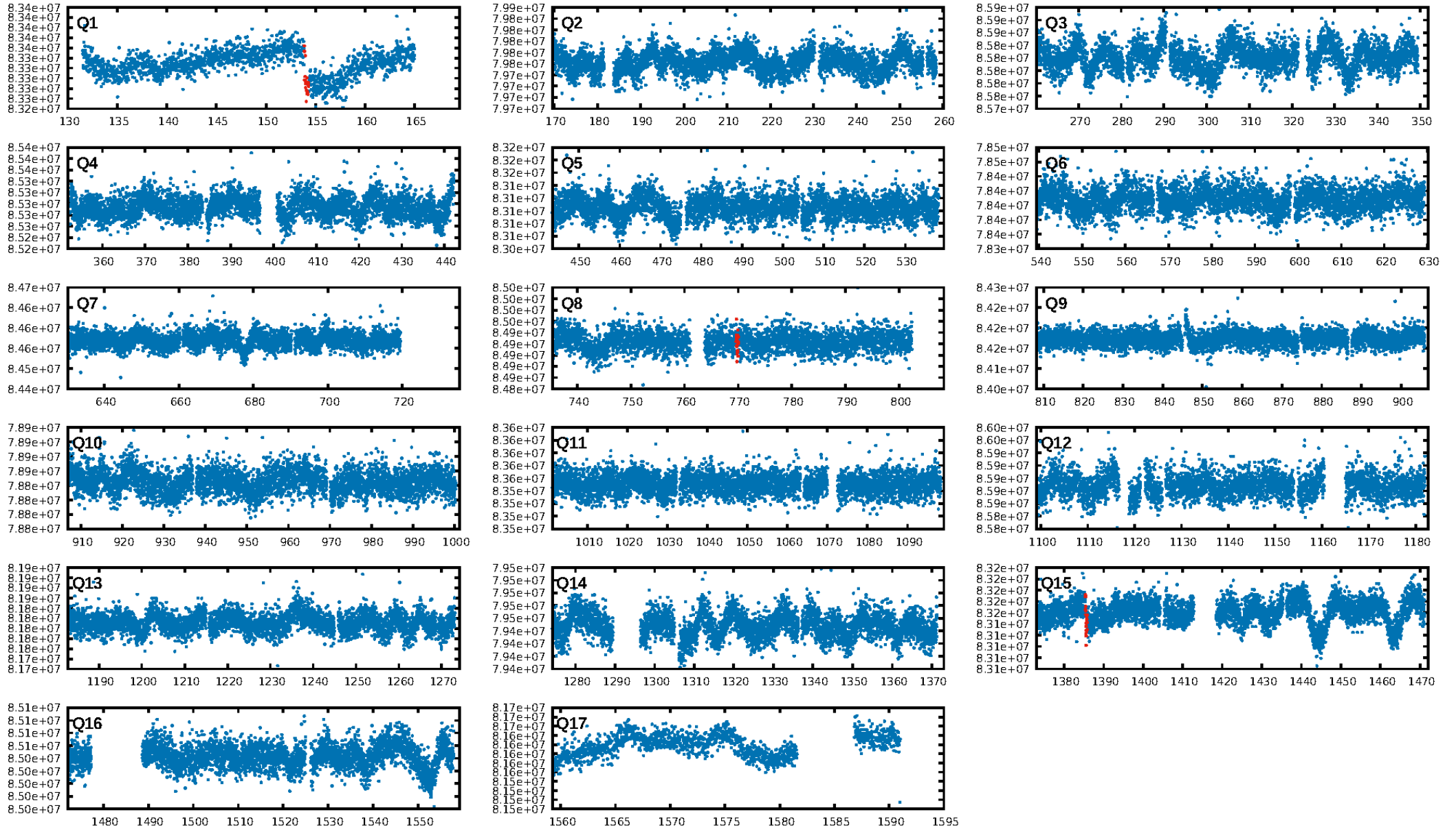
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 7.2%
ModelChiSquareGof-sig: 69.1%
Bootstrap-pfa: 2.71e-13
RollingBand-fgt: 1.00 [2/2]
GhostDiagnostic-chr: 2.644
Centroid-sig: 26.8%
Centroid-so: 1.791 arcsec [1.07 σ]
OotOffset-rm: 2.567 arcsec [1.96 σ]
KicOffset-rm: 2.664 arcsec [1.14 σ]
OotOffset-st: 0/1/1/1 [3]
KicOffset-st: 0/1/1/1 [3]
DiffImageQuality-fgm: 0.67 [2/3]
DiffImageOverlap-fno: 1.00 [3/3]

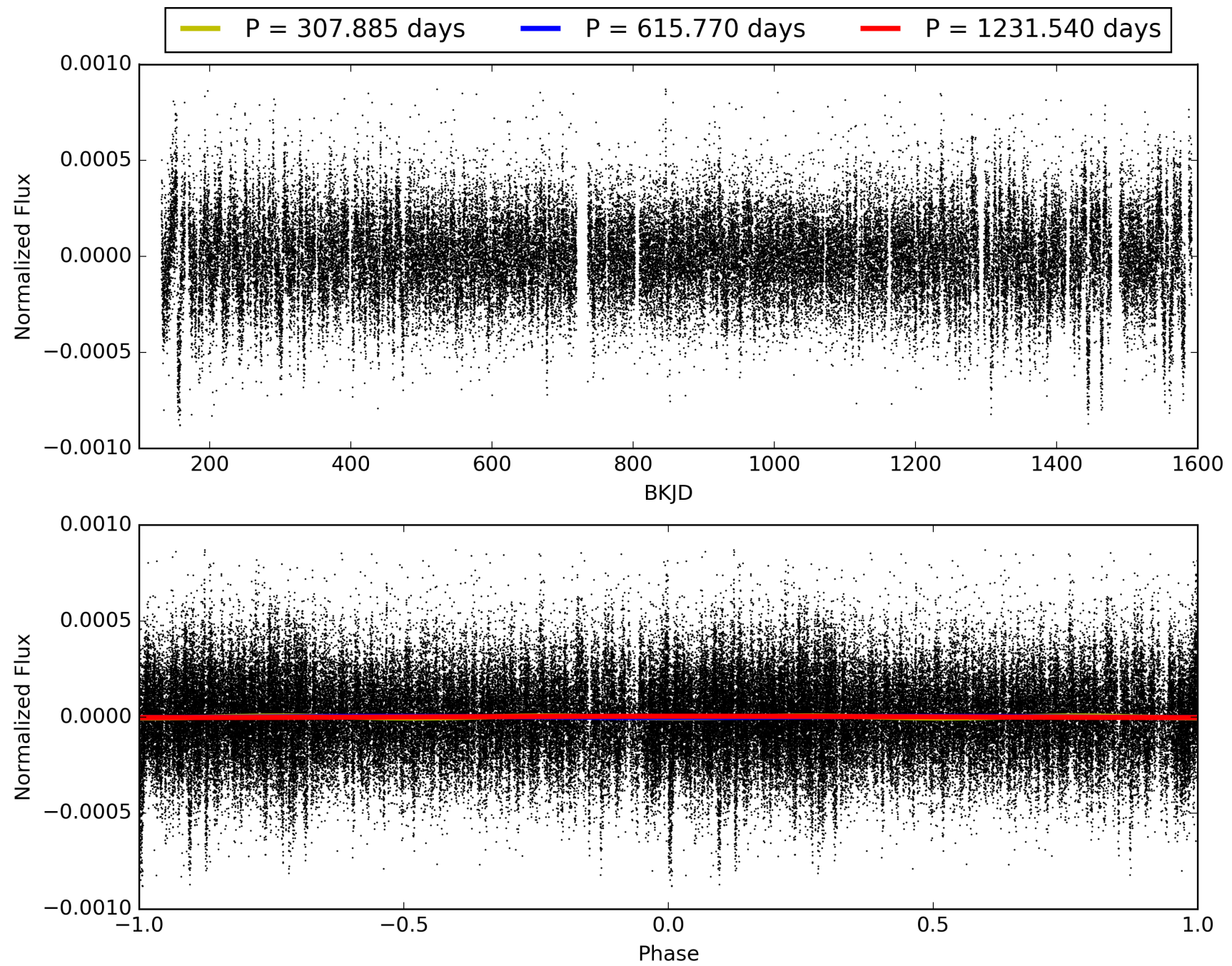
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 14:40:31 Z

This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 003099613-01, PDC Light Curves

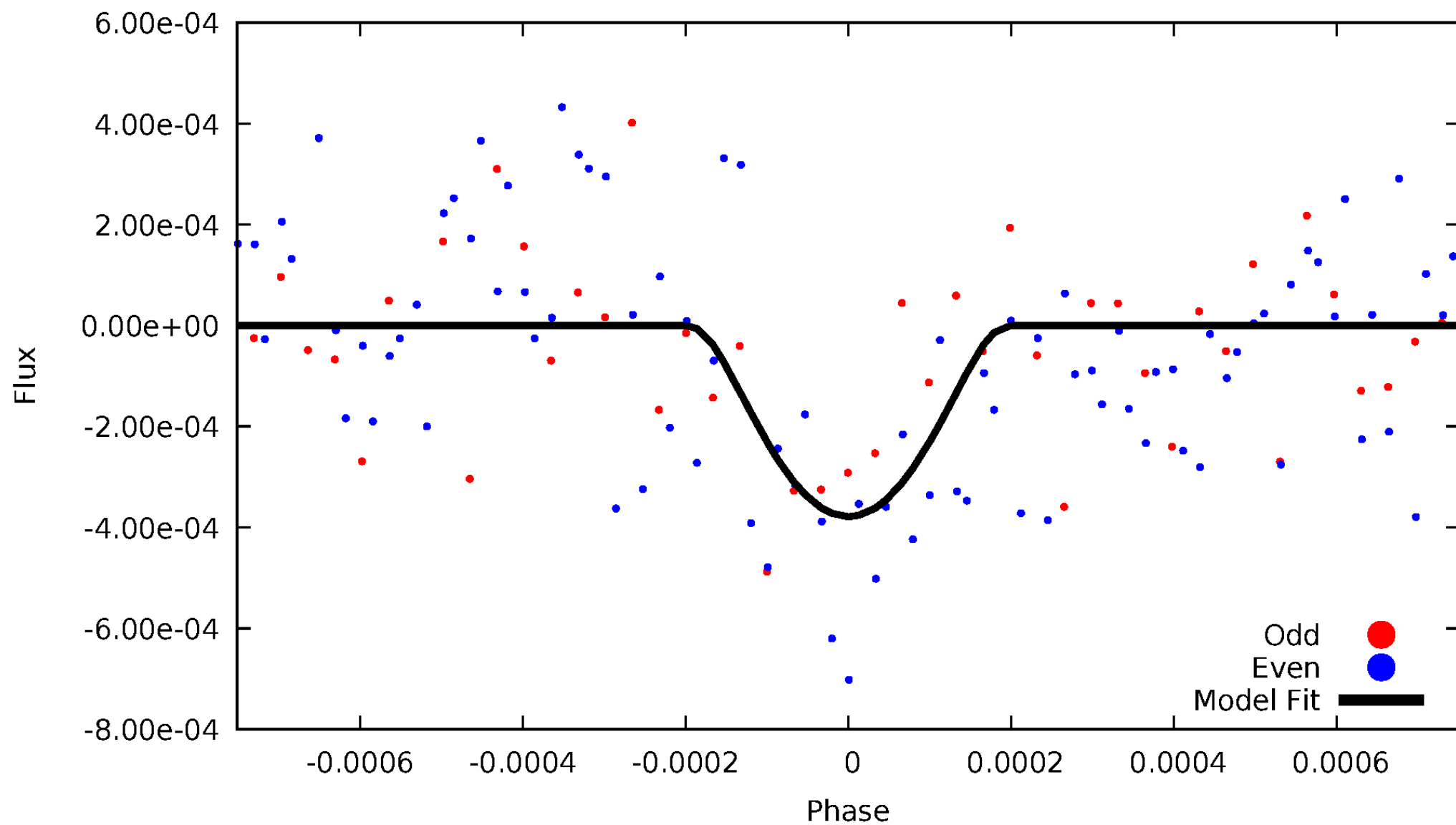


TCE 003099613-01



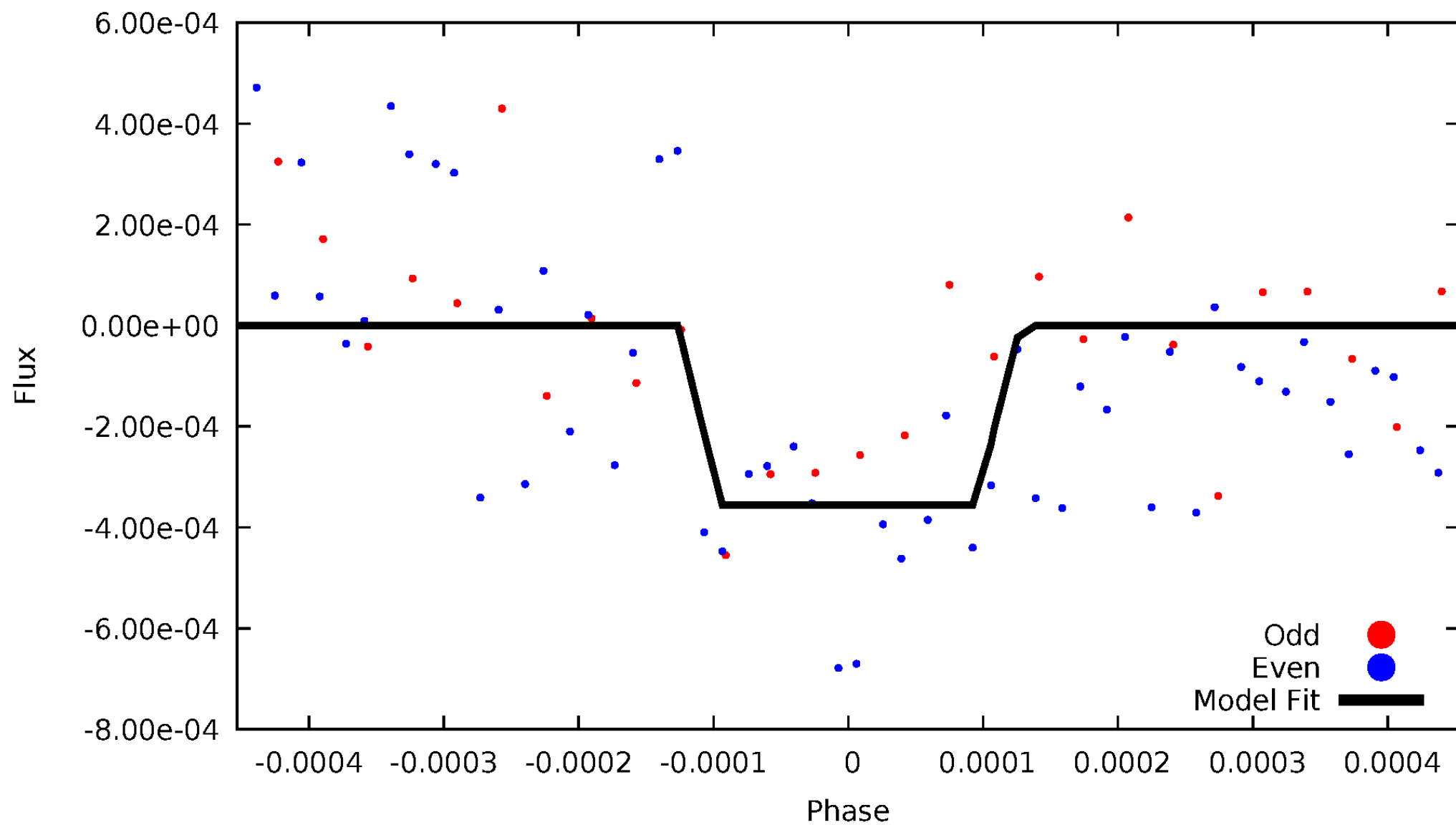
DV Odd/Even

TCE 003099613-01



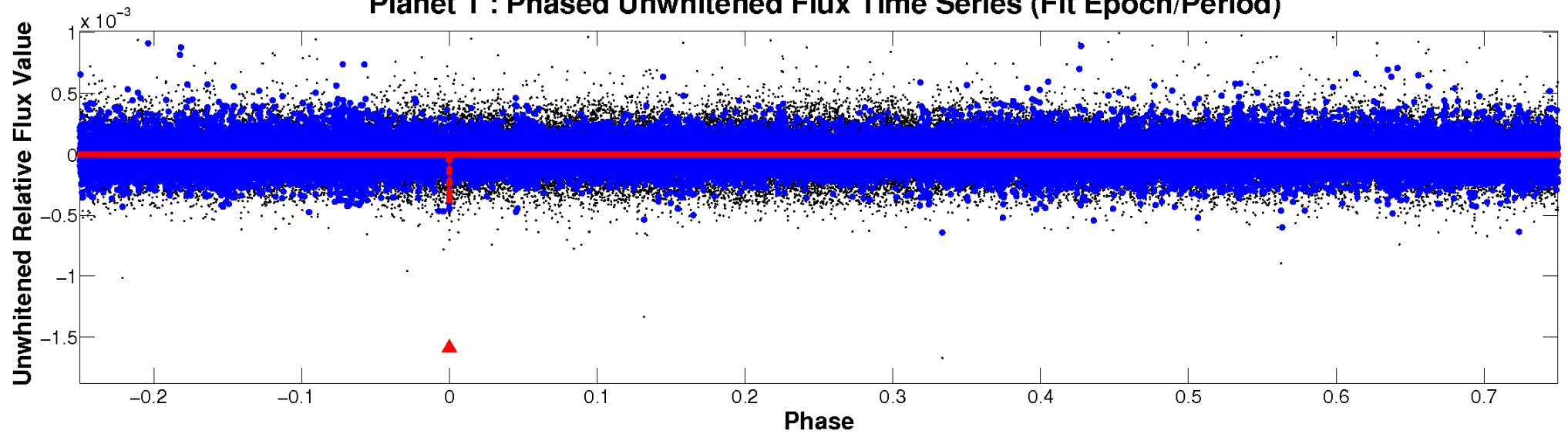
ALT Odd/Even

TCE 003099613-01

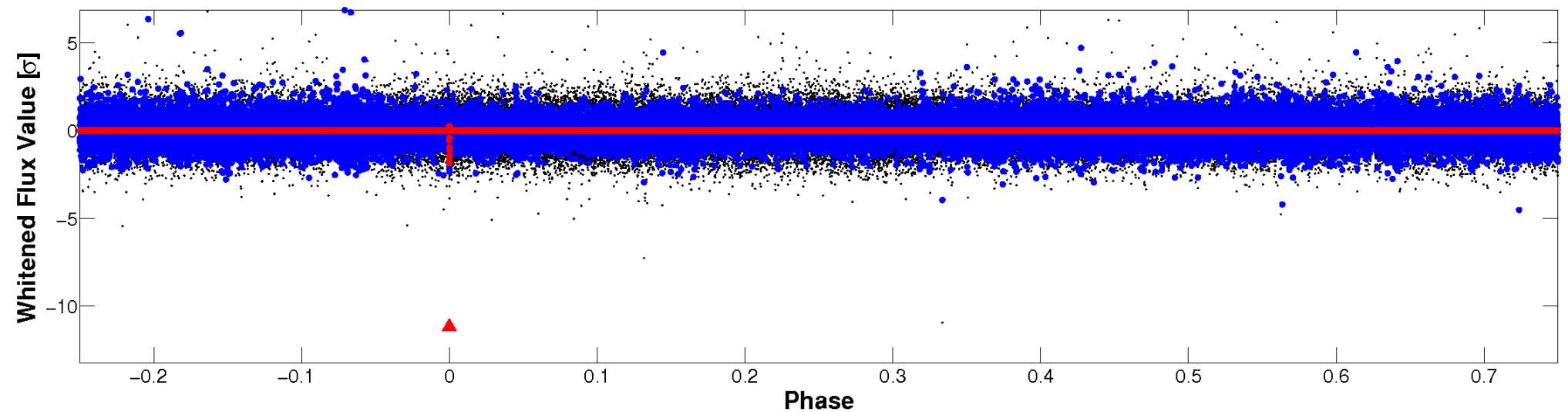


Non-Whitened Vs. Whitened Light Curve

Planet 1 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)



Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



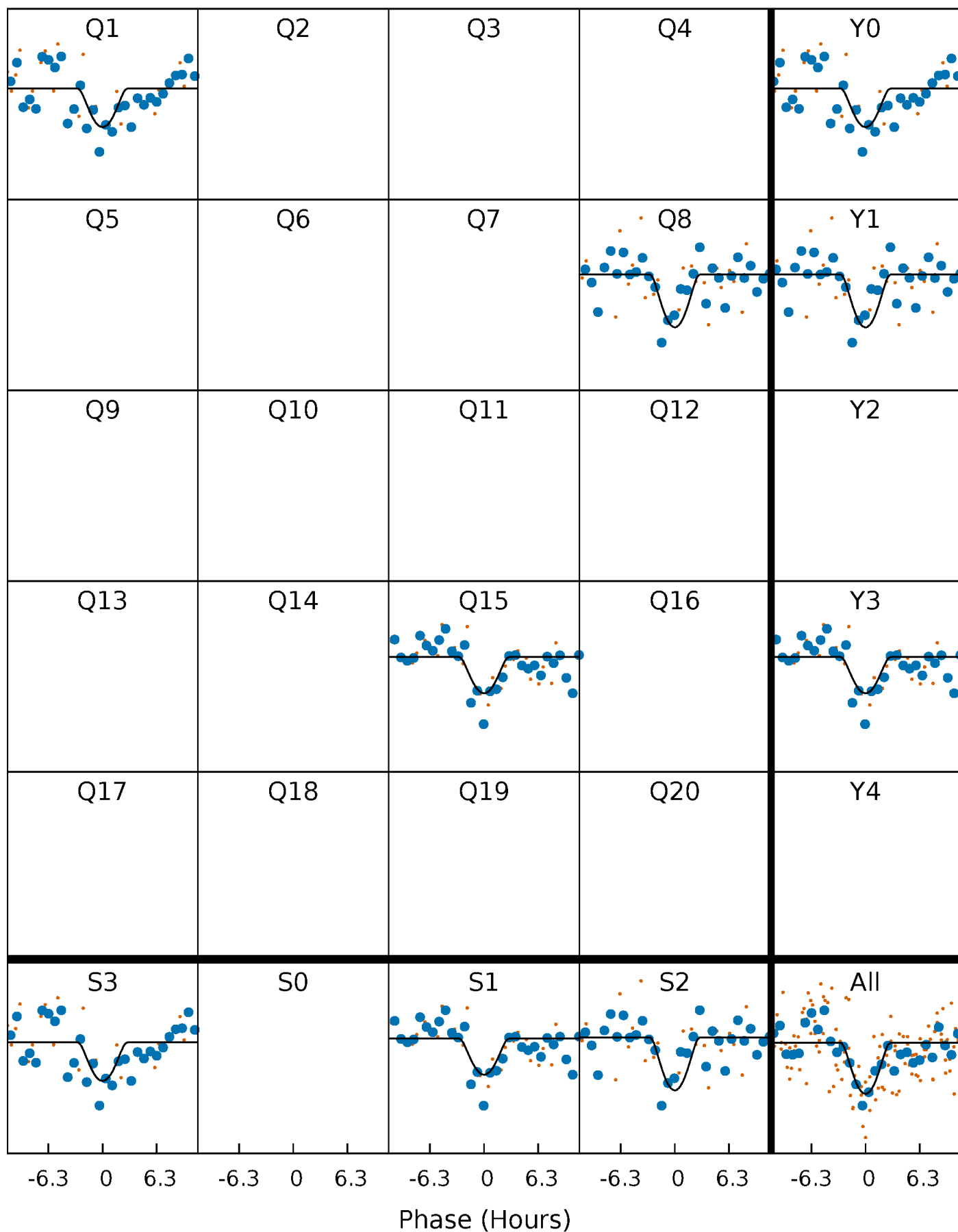
PDC Quarter-Phased Transit Curves

TCE 003099613-01 P=615.769907 Days $T_0=154.064518$ (BKJD)



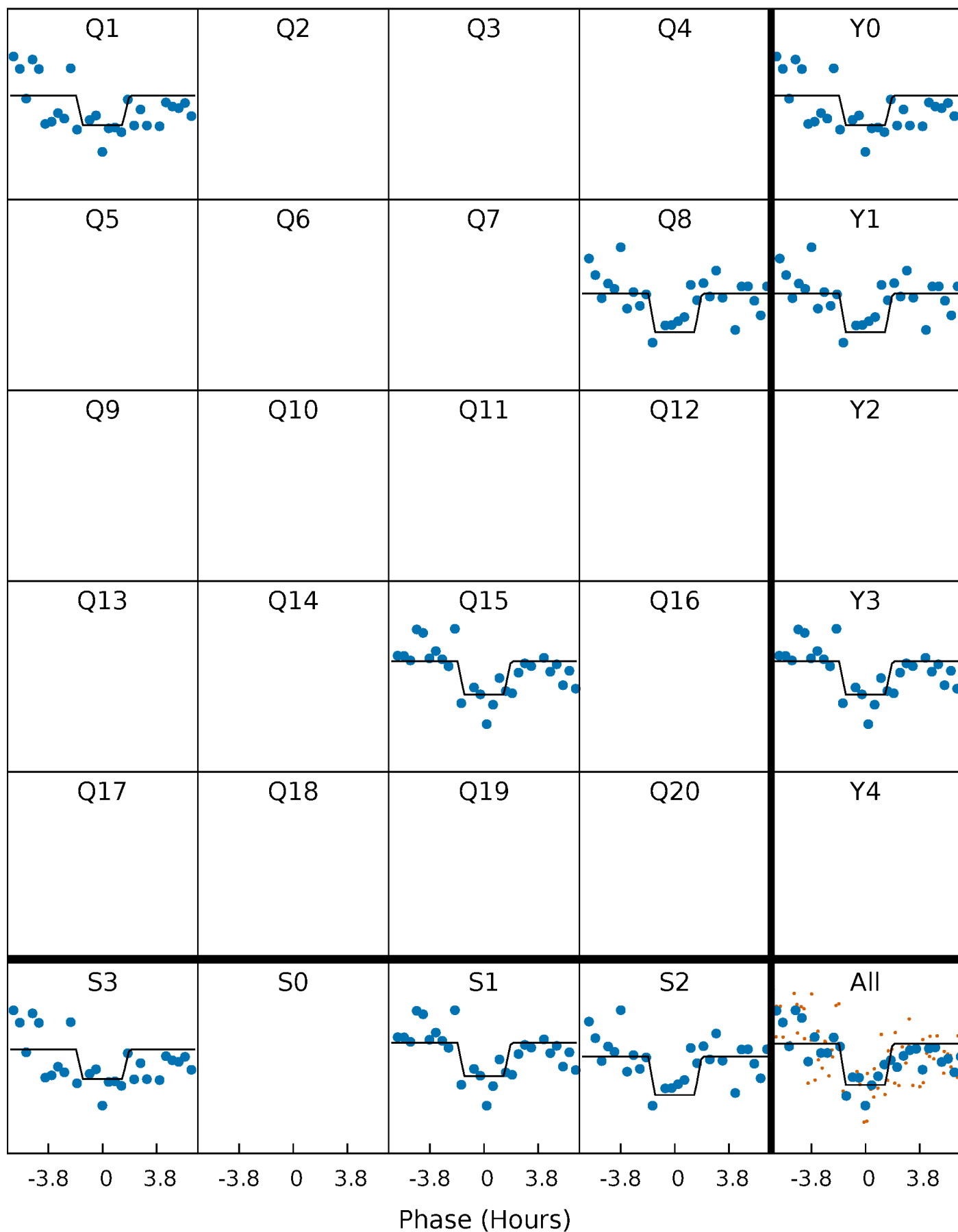
DV Quarter-Phased Transit Curves

TCE 003099613-01 P=615.769907 Days $T_0=154.064518$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

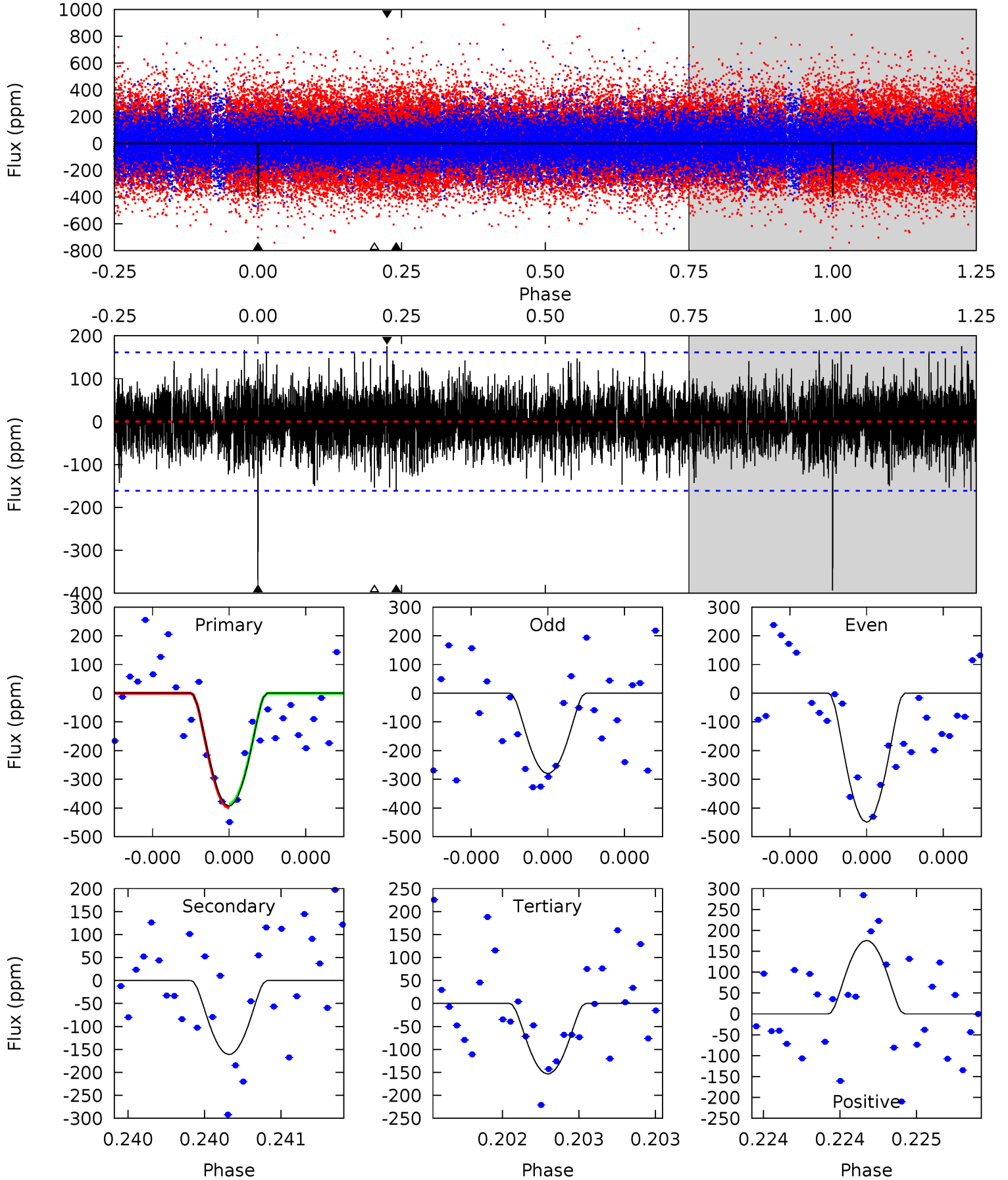
TCE 003099613-01 P=615.772142 Days $T_0=154.056663$ (BKJD)



DV Model-Shift Uniqueness Test

003099613-01, P = 615.769907 Days, E = 154.064518 Days

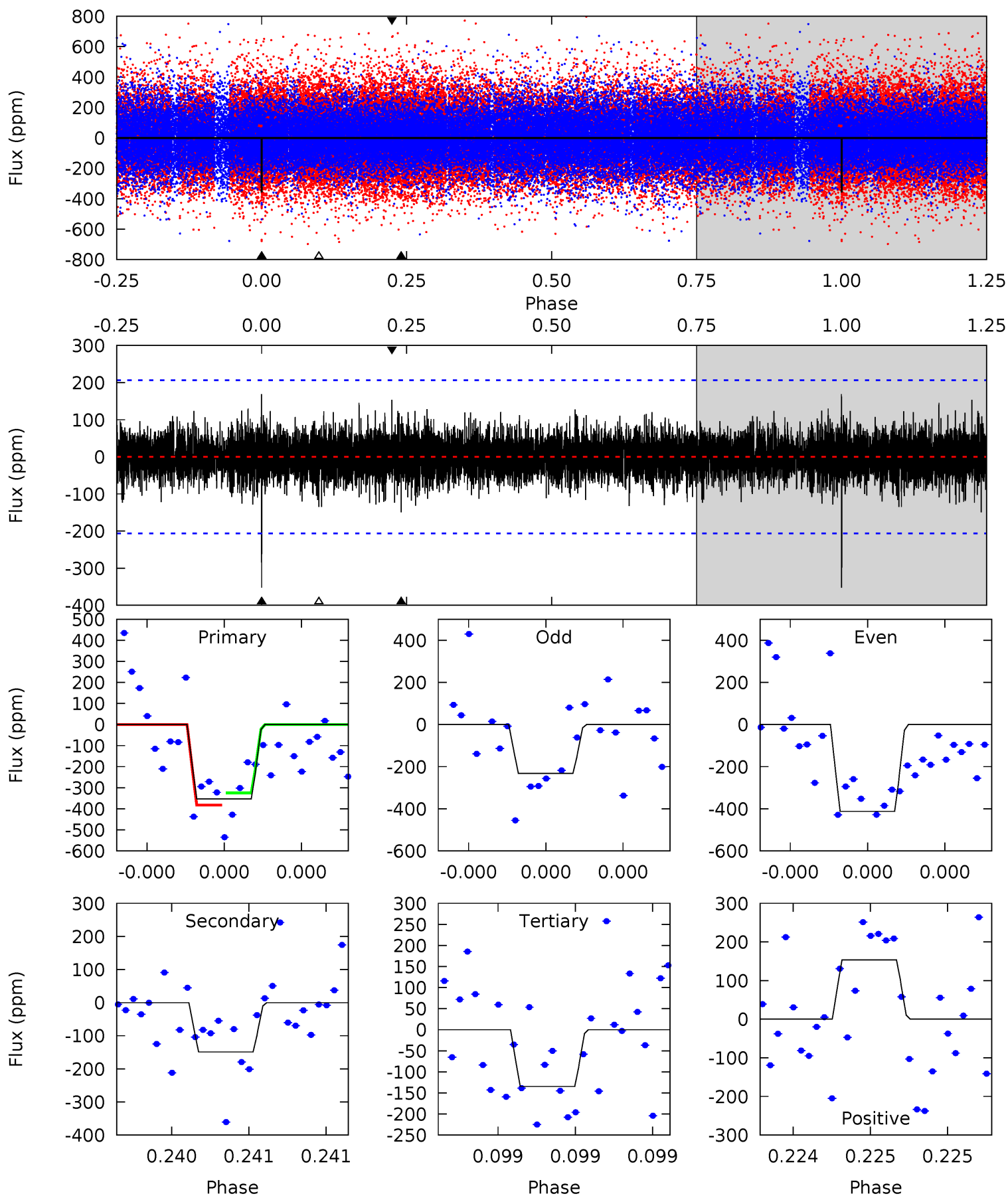
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.7	5.61	5.34	6.12	5.61	3.54	1.52	8.34	7.56	0.27	-0.51	2.79	0.94	0.31	0.24



Alt Model-Shift Uniqueness Test

003099613-01, P = 615.772142 Days, E = 154.056663 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.71	4.10	3.71	4.22	5.68	3.65	1.03	6.00	5.49	0.39	-0.12	2.32	0.87	0.32	0.79



Stellar Parameters For KIC 003099613

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6004^{+190}_{-211}	$4.233^{+0.252}_{-0.168}$	$-0.300^{+0.300}_{-0.300}$	$1.226^{+0.331}_{-0.298}$	$0.938^{+0.144}_{-0.096}$	$0.716^{+0.940}_{-0.361}$
	+3%/-4%	+6%/-4%	+100%/-100%	+27%/-24%	+15%/-10%	+131%/-50%
Source	PHO54	PHO54	PHO54	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 003099613-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-161 ± 29	$25.27^{+26.01}_{-17.30}$	346^{+27}_{-27}	2421^{+868}_{-351}	264^{+2461}_{-201}
Alt.	-149 ± 36	$22.55^{+26.37}_{-15.39}$	345^{+27}_{-30}	2456^{+890}_{-391}	296^{+2727}_{-233}

T_{max} = Theoretical Maximum Planetary Temperature
 T_{obs} = Observed Planetary Temperature (Assuming $A=0.3$)
 A_{obs} = Observed Albedo (Assuming $T=0$)

If a secondary eclipse is present, the system is likely an EB if $T_{\text{obs}} \gg T_{\text{max}}$ AND $A_{\text{obs}} \gg 1.0$

DV Centroid Data

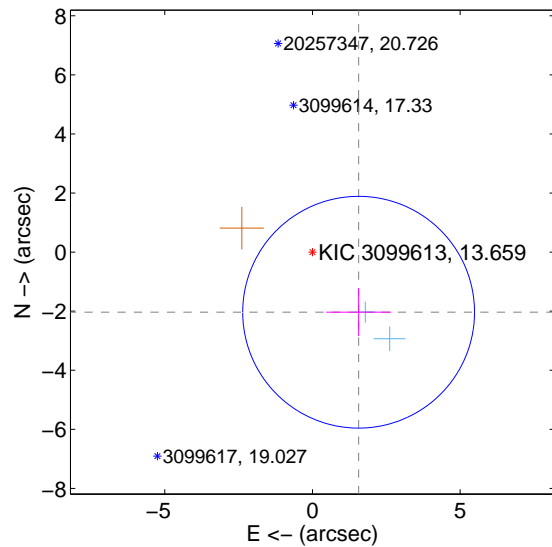
Supplemental centroid analysis for 003099613-01. Kepler magnitude: 13.66. Transit SNR 6.94

There are 2 quarters with good PRF difference image offsets

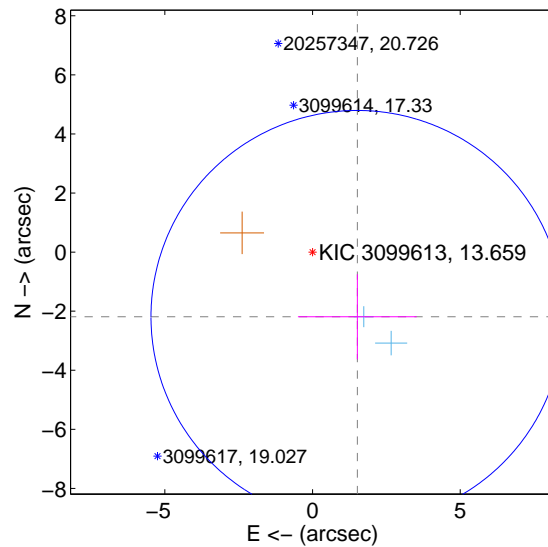
The direct PRF centroid is offset from the target star catalog position by about 0.15 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.567 ± 1.308	1.96	-1.563 ± 1.101	-2.036 ± 0.807
PRF-fit source offset from KIC position	2.664 ± 2.329	1.14	-1.517 ± 2.010	-2.190 ± 1.442
photometric centroid source offset	1.79 ± 1.68	1.07	0.45 ± 1.70	-1.73 ± 1.68

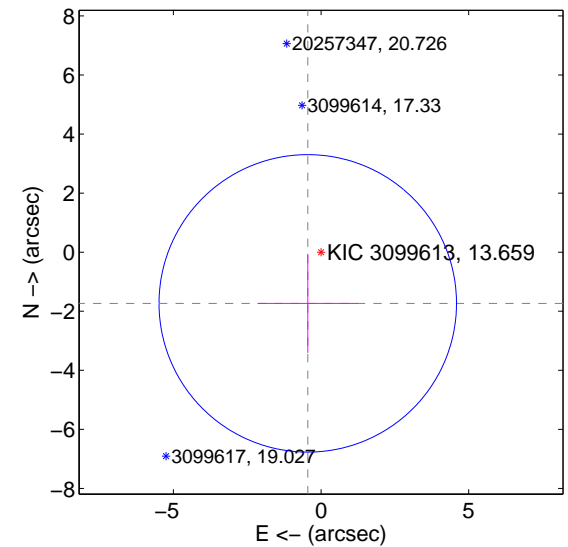
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

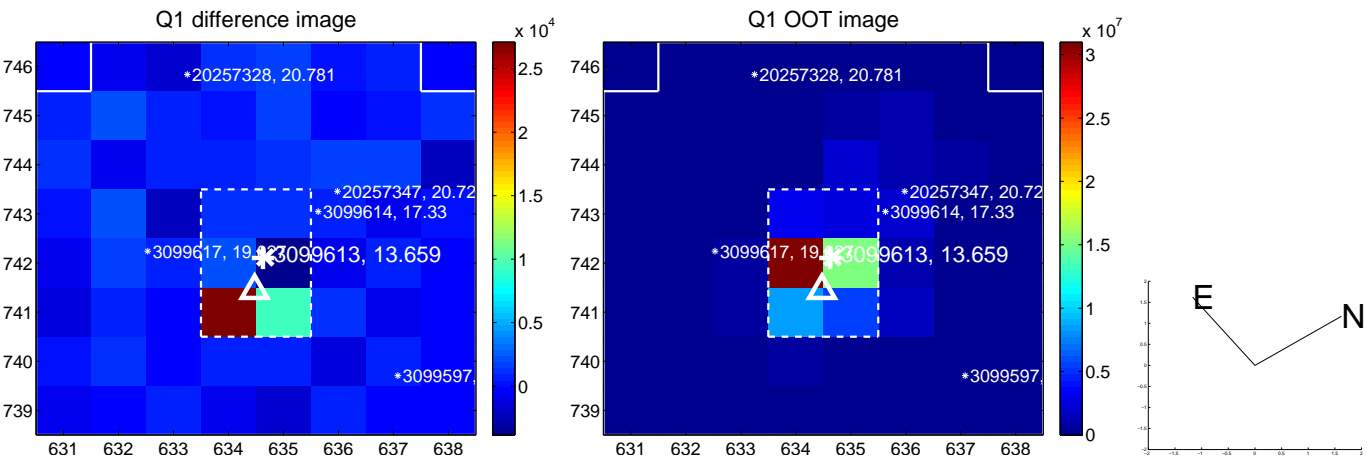


offset from photometric centroids

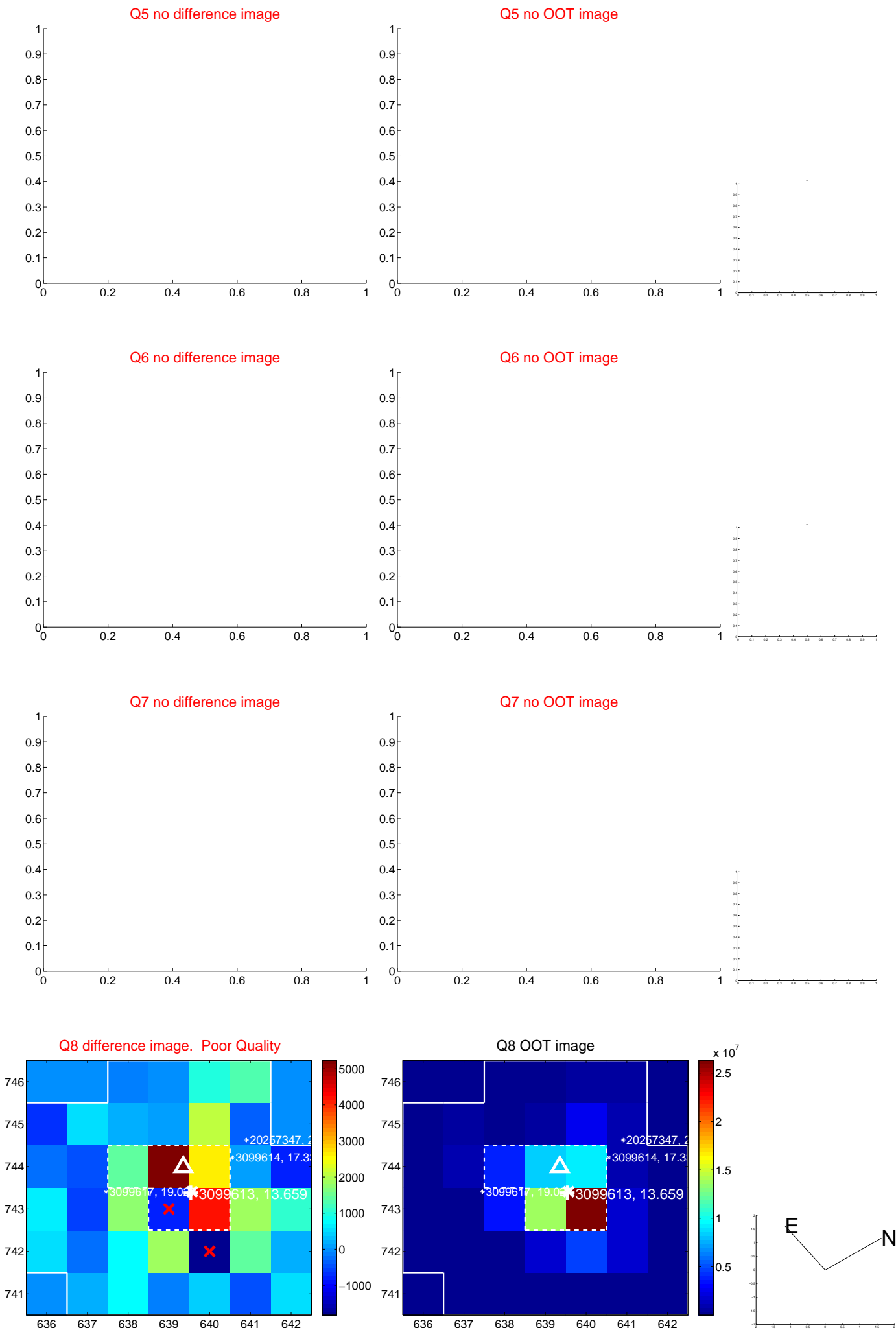


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ . Red *: target star. Blue *: Other stars. Text next to a star gives its KIC ID and kepmag. KIC IDs > 15,000,000 are from the UKIRT catalog.

white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



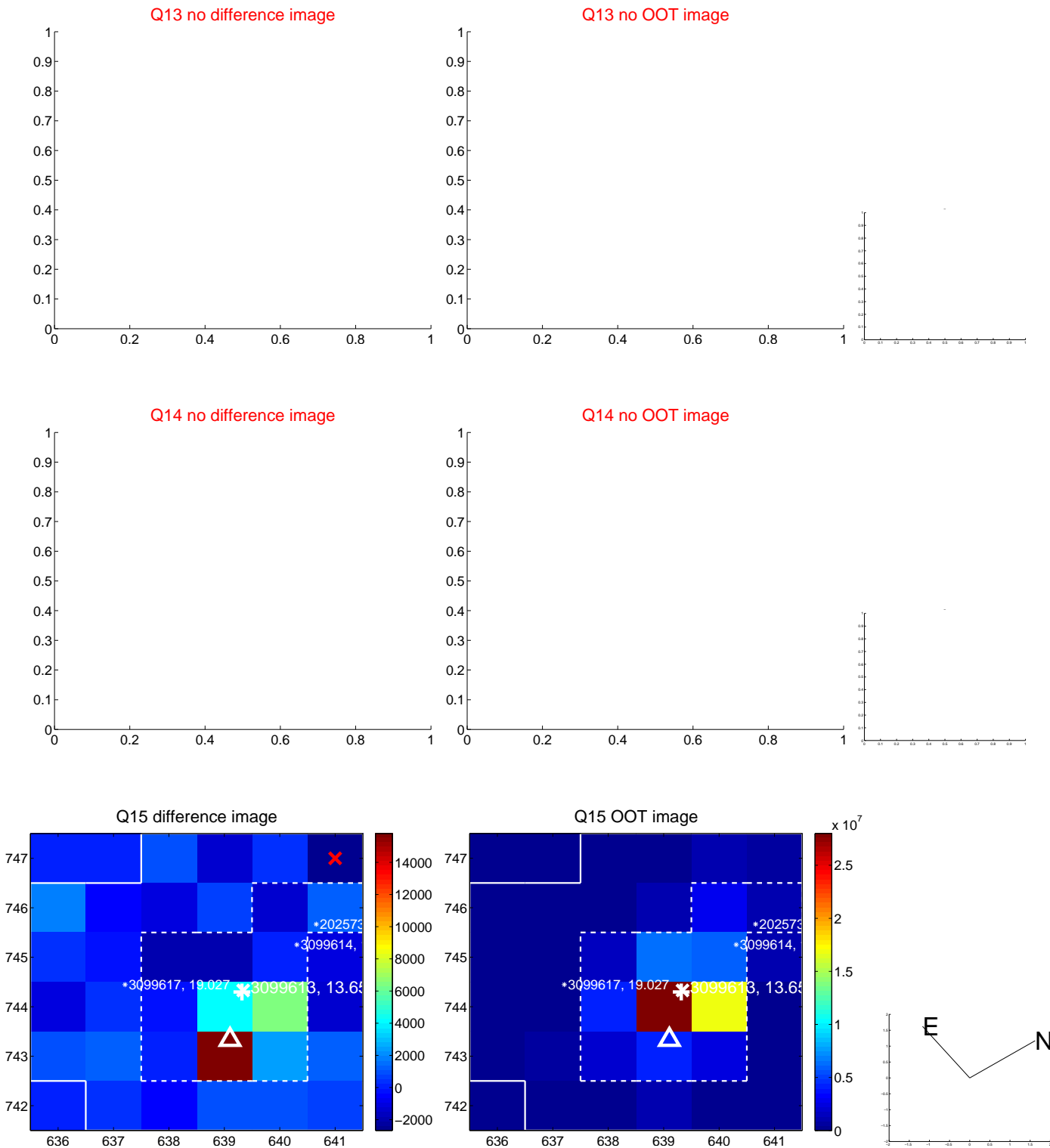
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



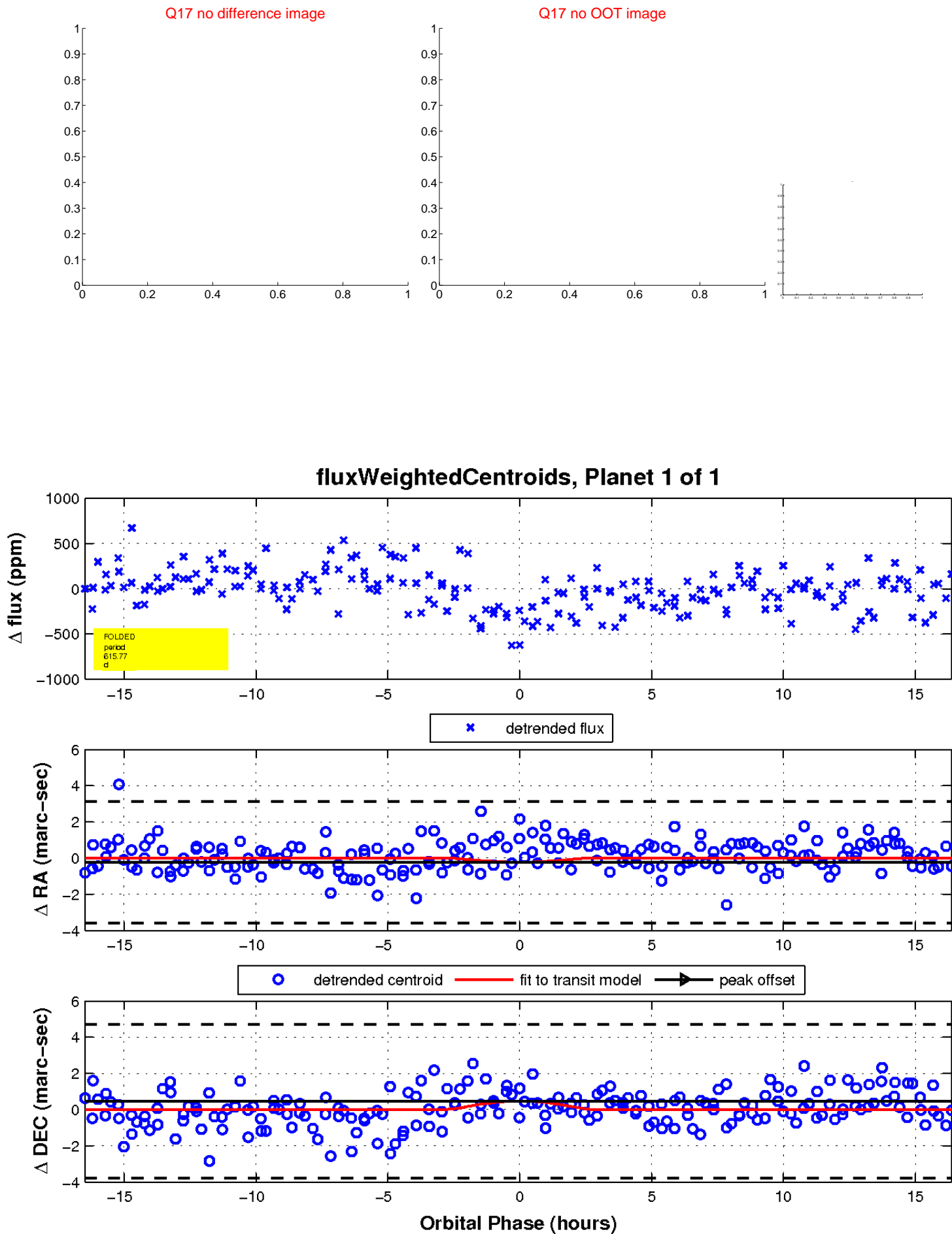
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination

